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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 825,613	04 03 2001	Sujit Sharan	95-0716.03	3511

7590

03 07 2002

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EXAMINER

KILDAY, LISA A

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 03 07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,613

Applicant(s)

SHARAN ET AL.

Examiner

Lisa A Kilday

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application):
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s): _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Priority

Applicant must insert the patent number of its parent application 09/249,478 in the specification.

Specification

Claim 4 objected to because of the following informalities: capitalize all occurrences of "Torr". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "sufficient" in claim 1 is a relative term which renders the claim indefinite. The term "sufficient" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The use of "sufficient" in claim 1 reads on a nebulous mental step conducted prior to the manipulative steps of the claimed process, hence rendering the present process claim unclear in meaning in scope. If applicant wishes to patent detail controls over the recited process, then the process steps must be positively recited.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-4, 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhao et al (6,051,286). Zhao et al. teaches a process of PECVD deposition of metal films (fig. 17 ref. 956) comprising the steps of providing an ion promoting atmosphere and contacting a substrate with a plasma of approximately 50-90% of a metal containing gas in said ion promoting atmosphere at a pressure and temperature range sufficient for film deposition for said metal (abstract, fig. 19 ref. 1014 & 1015, fig. 21, col. 2 lines 17-18, col. 5 lines 30-35, col. 6 lines 44-46, claims 1-2, claim 22).

In re claim 2 with the limitations of independent claim 1, Zhao et al. teaches that the ion-promoting atmosphere consists of N₂, Ar, Ne, Kr, Xe, He, and Rn (col. 2 lines 10-12, col. 9 lines 50-52, claim 7).

In re claim 3 with limitations of independent claim 1, Zhao et al. teaches that the step of contacting a substrate with plasma comprises having a temperature range of approximately 150-500°C (abstract, col. 3 lines 38-40, col. 4 lines 60-62).

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In re claim 4 with limitations of independent claim 1, Zhao et al. teaches that the step of contacting a substrate with a plasma comprises having a pressure range of 1 mTorr to 10 Torr (col. 6 lines 52-53, col. 35 lines 15-18).

In re claim 29, Zhao et al. teaches a process for PECVD deposition of metal containing films on a surface by maintaining a pressure and a temperature which allow for PECVD metal containing film deposition and contacting said surface with a plasma of approximately 50-90% metal-containing compound in a chemically inert atmosphere (abstract, fig. 19, fig. 21, col. 2 lines 17-18, col. 5 lines 30-35, col. 6 lines 44-46, claims 1-2, claim 22).

Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kaloyeros et al. (6,090,709) discloses a PPCVD process for depositing metal with an ion-promoting atmosphere at temperatures below 475°C. However, PECVD requires a plasma density greater than 0.5 W/cm².

Conclusion

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0957. See MPEP 203.08.

Any inquiry concerning this communication from the examiner should be directed to Lisa Kilday whose telephone number is (703) 306-5728. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry, can be reached on (703) 308-1680. The fax number for the group is (703) 305-3432.

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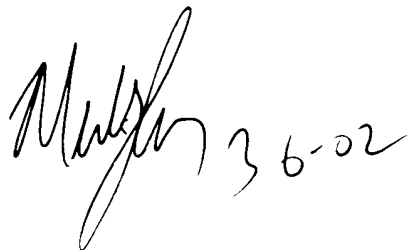
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MPEP 502.01 contains instructions regarding procedures used in submitting responses by facsimile transmission.

Lisa Kilday

LAK

3/6/02



MICHAEL J. CHERRY
PRIMARY EXAMINER